NOTES AND ABSTRACTS

WILLIAM HENRY DINES, 1855-1927

[Condensed from the Meteorological Magazine, January, 1928]

The readers of this magazine will have heard with regret of the death of W. H. Dines, which occurred on Christmas Eve at the Old Observatory, Benson, and will desire to express their sympathy with Mrs. Dines and with her two sons who are our colleagues on the staff of the office.

Interest in meteorology may almost be said to be hereditary in the Dines family, for Mr. Dines's father was the inventor of the dew-point hygrometer, which still goes by his name and is described in most text books on physics. * * *

Mr. W. H. Dines was born in 1855. He served an apprenticeship as a railway engineer, and then proceeded to Corpus Christi College, Cambridge, where he read mathematics and graduated as a Wrangler in 1881. From that time onward he devoted himself to meteorology but did not hold an official position. He was in the true and best sense of the word an amateur, never seeking to enhance his personal reputation, still less to secure financial advantages for himself, but he has left an indelible impress on the progress of the science. Of an exceedingly reticent and retiring nature, he was essentially an individual worker, yet a great deal of his work was done in cooperation with others. His early work on wind pressure was in cooperation with the Wind Pressure Committee of the Royal Meteorological Society. It gave us the pressure-tube anemometer, which made it possible to measure transient gusts of wind, an indispensable preliminary to the development of our modern ideas of turbulence.

Dines had reached middle life when the observational study of the upper air came into its own. * * * The Joint Upper-Air Committee of the British Association and the Royal Meteorological Society, which was responsible for inaugurating such work as could be undertaken here, was fortunate in securing Dines as its active worker. The early work was carried out with kites at Mr. Dines's house at Oxshott, or from a steam vessel off Crinan on the west coast of Scotland. He exhibited an almost uncanny facility in devising at a minimum of cost, apparatus which worked and achieved results which he had set out to obtain. * * * The investigation of the higher regions of the atmosphere by means of sounding balloons was included in a [later] program. Here Dines struck an entirely original line in the design of the meteorograph which he used. To economize weight he dispensed with the clock, which was used by all other workers in the field, and contented himself with obtaining a pressure-temperature record of the ascent on a scale so small that the curve had to be tabulated with the help of a reading microscope. * * *

In his later years he was impelled to the study of radiation, and here again we find him active both as a designer of instruments and as observer and student. It is gratifying to note that despite his failing health he was able to maintain his scientific interests almost up to the end, for it is only a few months since he contributed, with the cooperation of his son, L. H. G. Dines, a paper to the *Memoirs of the Royal Meteorological Society* on "Mean values of radiation from various parts of the sky at Benson." Mr. Dines was elected a Fellow of the Royal Meteorological Society in 1905, and was awarded the Symon's gold medal of the Royal Meteorological Society in 1914.—*R. G. K. Lempfert.*

GENERAL JADWIN REPORTS ON FLOOD-PROTECTION SYSTEM FOR MISSISSIPPI RIVER[1]

Flood-protection works costing $296,400,000 for the Mississippi Valley are recommended in the long-awaited report of Maj. Gen. Edgar Jadwin, Chief of Engineers, United States Army, just transmitted to Congress by the President with his indorsement. The recommendations represent a thoroughgoing revision of the present Mississippi River Commission's project as well as of the system under which work has been carried on heretofore. Depending on levees only is for the first time abandoned, and declared to be incapable of providing for the maximum predicted flood. The essentials recommended are:

THE PROJECT IN OUTLINE

(1) The present levee system is retained as the basis of the new project, but the levees are to be raised somewhat and at some points are to be set back. To prevent failure from causes other than overtopping and bank caving the levee section is to be enlarged. The maximum section, generally, will be river slope 1 on 4, crown 12 feet wide, and landside slope about 1 on 6.

(2) Three large overflow channels or flood ways outside the levee lines are to be provided, all on the west side of the river, located as shown on the map, Figure 3.

(3) Just above New Orleans a controlled spillway into Lake Pontchartrain is to be built.

(4) Backwater ponding in the lower ends of the principal flood basins is utilized for further relief, these backwater areas being submerged only in occasional floods from once in 3 years to once in 15 years.

(5) Bank revetment on a large scale (to cost $115,000,000 is provided for channel stabilization.

(6) A complete topographic map of the valley is to be prepared as a preliminary, and the estimates included a figure of $1,000,000 for this work.

As to the administrative system which should be set up for carrying out this great project, General Jadwin recommends that the local authorities be required to meet part of the construction cost—$37,440,000 out of the total figure stated above—and in addition all costs of right of way and incidental damages, while the United States Government should pay the rest. Direction of the work by the Mississippi River Commission is to be improved by placing the commission under the direction of the Chief of Engineers.

In connection with these specific recommendations, the report discusses various alternative solutions that have been proposed and finds against them. In particular it states that reservoirs would not be capable of dealing with the flood problem at any reasonable cost.

No details on the determination of maximum probable flood are given in the report, nor is levee construction discussed except to say that the earth levee is the best type for the purpose. The plans and estimates do not include the tributaries except for a short distance above their mouths; the subject of tributaries is still under study.

At the outset the report declares that the past plans of the Mississippi River Commission have been proved unsuccessful:

[1] Reprinted from Engineering News-Record of December 15, 1927.